



## **2020 Tawny Crazy Ant Infestation at Emma Long Metropolitan Park**

### **Balcones Canyonland Preserve Investigative Report IP202001**

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#### **Abstract**

Invasive Tawny Crazy Ants were observed at Emma Long Metropolitan Park in August 2020. Balcones Canyonlands Preserve staff have worked with partners to limit the spread of ants outside of the park. These efforts included mapping the current extent, and providing guidance to Parks staff, and educational materials for Parks staff and visitors.

#### **Background**

Tawny Crazy Ants (*Nylanderia fulva*; hereafter TCA) are a species of exotic invasive ants. They were first documented in Texas by pest removal specialist Tom Raspberry in the Houston area in 2002 and were believed to be a previously unidentified species, called the Raspberry Crazy Ant. Further investigations revealed the ants to be natives of South America, and direct rivals of the Red Imported Fire Ant (*Solenopsis invicta*). TCA were first documented in the Austin area in 2011 and have since been recorded with multiple colonies across the city (see Figure 4). TCA are a known threat to native fauna. These ants swarm in large numbers and consume any small animal they can overtake. On Balcones Canyonlands Preserve (BCP) lands, these impacts are of great concern since most of the protected species we manage are cave invertebrates. Additionally, protected songbirds are insectivores and rely on native insect availability. Since TCA forage arboreally, it is expected that they could disturb nesting Golden-cheeked Warbler females and predate nestlings.

TCA are also an expensive nuisance for people. They are attracted to electrical circuits, where they swarm, cause shorts, and destroy electrical equipment and create fire hazards. They are known to ruin AC units and other accessible electrical equipment. Traditional pesticides have limited effectiveness in stopping their encroachment. The University of Texas Brackenridge Lab has been studying a microsporidian fungi found in TCA, *Myrmecomorba nylanderiae*, that



parasitizes and shortens the life span of TCA. This fungi was experimentally applied to a colony in South Austin and appears to have effectively eliminated that colony.

## **Observations**

On August 7<sup>th</sup>, 2020, Audrey Kuhl, a former Travis County BCP seasonal biologist reported crazy ant type ants at Emma Long's shoreline park to City of Austin Wildlands Conservation Division (WCD) Manager, Sherri Kuhl. Sherri contacted TCA researcher Ed LeBrun about the ants on August 8<sup>th</sup>.

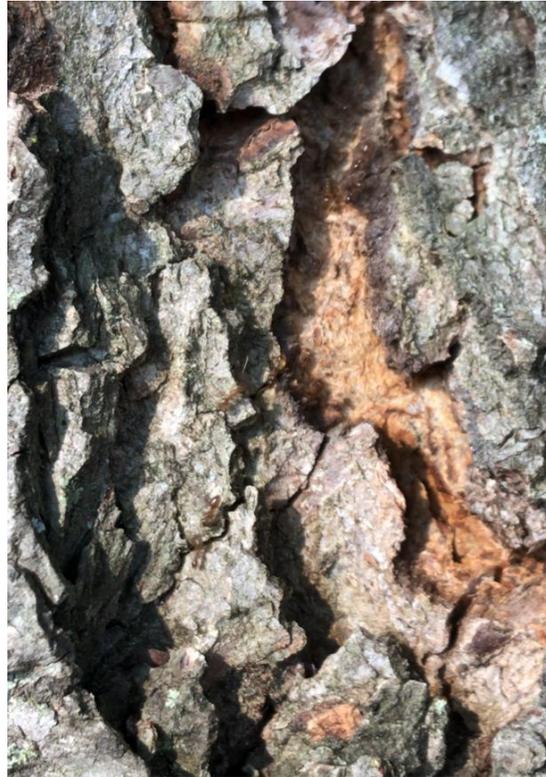
On August 10<sup>th</sup>, 2020, Ed LeBrun replied and confirmed that the ants are a new colony of TCA on Emma Long. Ed reported that a colleague of his had reported the ants to him in late July. Mr. LeBrun provided a map (see Figure 5) of confirmed locations at Emma Long Park (ELP) that he had observed on August 5<sup>th</sup>. He also noted that the ants appeared to be densest near the lake shore, though his map did not show detections (positive or negative) at the lake shore. Sherri asked PARD staff to work with BCP biologists to limit the spread of ants in relation to the upcoming Park improvements construction project.

On August 28<sup>th</sup>, 2020, BCP Biologists Jonny Scalise and Mark Sanders met at ELP to better estimate the extent of the ants within the proposed construction area. Mark and Jonny observed ants in much of the project area, but not in the immediate area around the showers (see Figure 6). Jonny also confirmed ants at the Turkey Creek trailhead and crossing the Turkey Creek dry creek bed. Ants were not observed in trash cans or bathrooms at the Emma Long Bike Park parking lot.

On October 16<sup>th</sup>, 2020, ELP construction project manager, Scott Sinn, contacted BCP Biologists about suspected TCA that were observed by workers around a water meter. Based on the reported location, BCP Biologists recommended that workers treat the ants as though confirmed TCA, as the location was directly between two points where ants were observed on August 28<sup>th</sup>.

On October 22<sup>nd</sup>, 2020, Mark Sanders met with Kerri Thompson at ELP to assess lower risk RV spots. Mark confirmed TCA at several of the observed RV spots. Mark and Kerri observed an RV user spraying insect repellent or pesticide around their site. Ants activity was observed on the road, concrete sidewalks, all over the bathroom concrete floor, and on the dumpster near the bathroom/well house.

**Figure 1.** Tawny Crazy Ants climbing a tree at Emma Long Park to forage in canopy, 8/28/2020



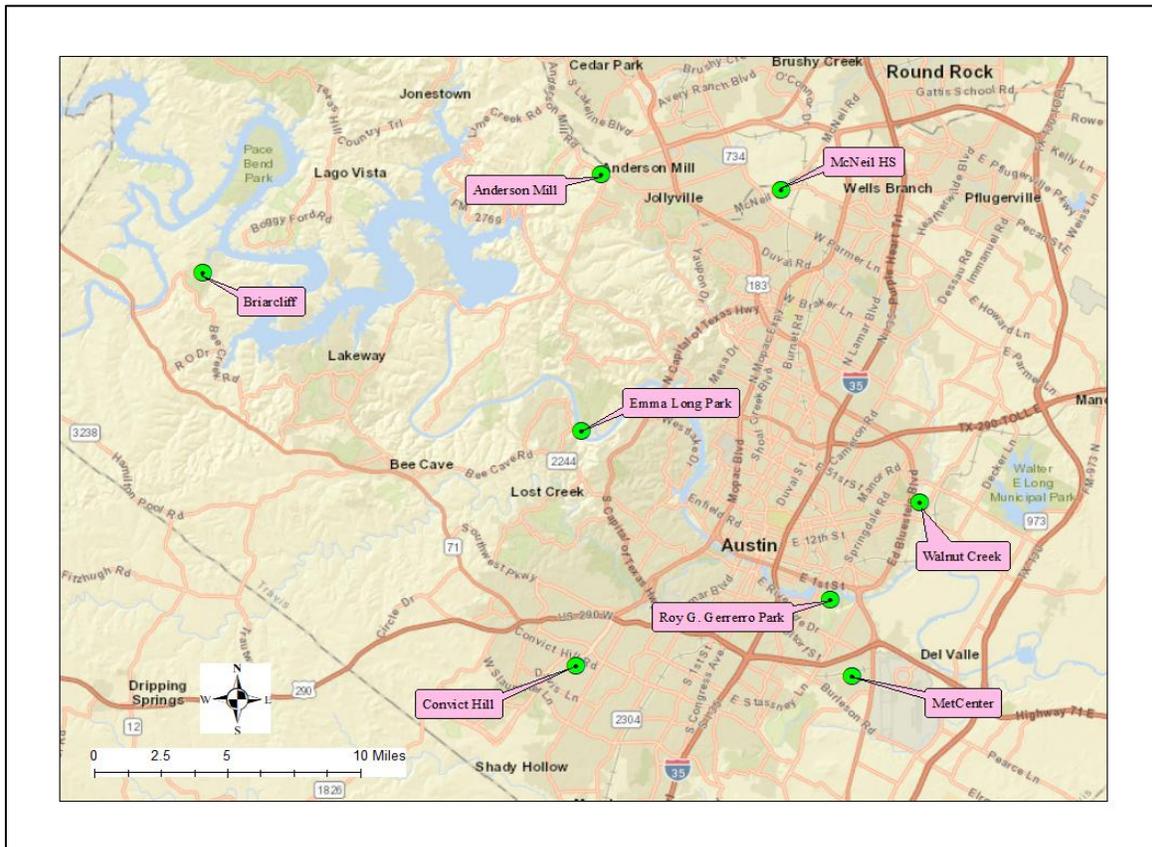
**Figure 2.** Tawny Crazy Ants foraging trail seen moving in and out of dumpster at ELP, 8/28/2020



**Figure 3.** Tawny Crazy Ant trail seen crossing the dry Turkey Creek bed, 8/28/2020.



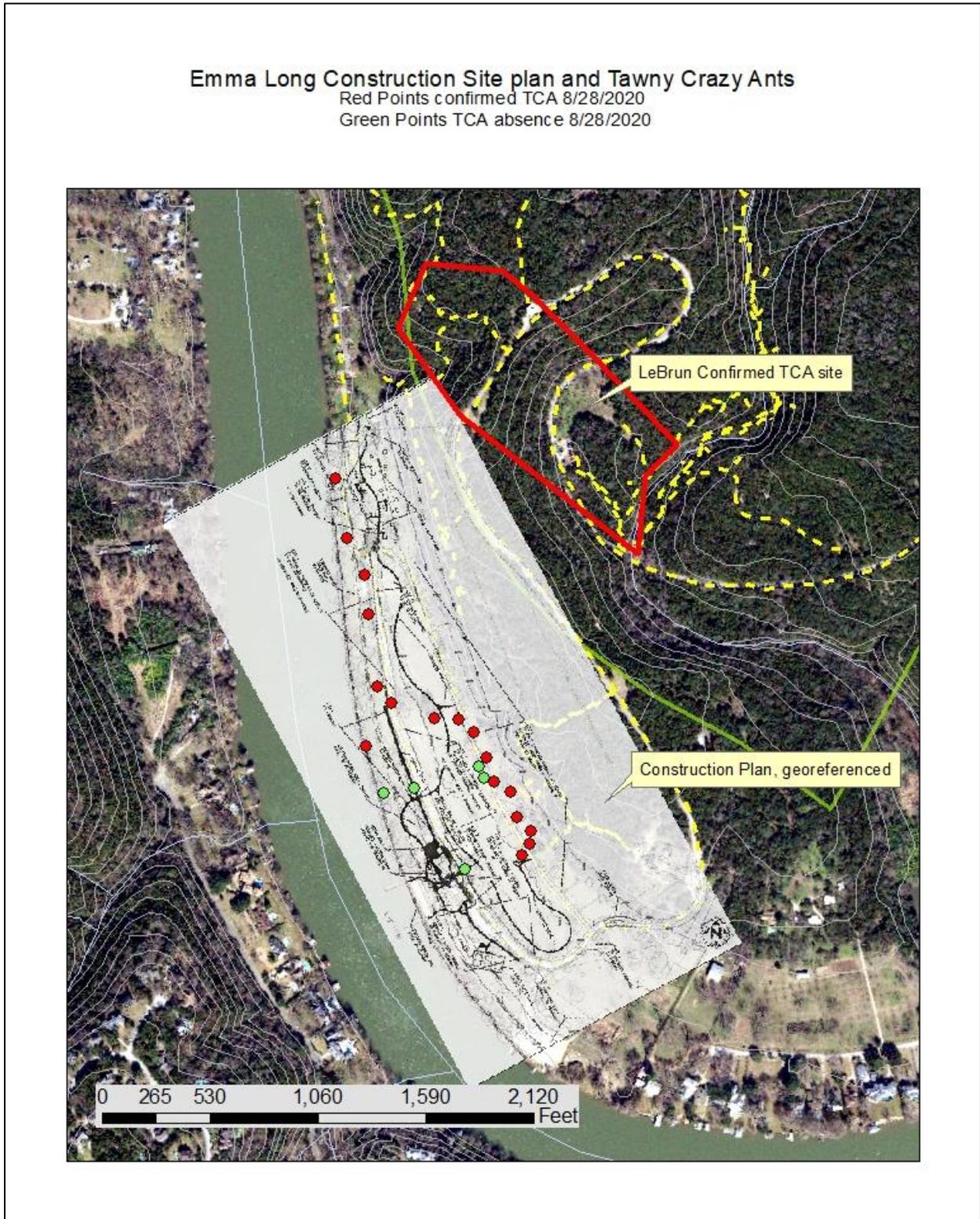
**Figure 4.** Known Tawny Crazy Ant Populations in the Austin area



**Figure 5.** Map of confirmed Tawny Crazy Ant locations on Emma Long Park (provided by Ed LeBrun UT Brackenridge Lab)



**Figure 6.** Map of observed Tawny Crazy Ant Locations at Emma Long Park with park improvement construction plan georeferenced.



## **Hypotheses for Tawny Crazy Ant introduction to Emma Long Park**

Several hypotheses for how the ants arrived at the park exist, and there is no way to determine with certainty which is the method of transmission.

A leading hypothesis is that ants were brought in on a Recreational Vehicle (RV) and spread from there. RVs are a known source for the transmission of TCA, since they are attractive nesting sites for ants and are mobile, moving from infected sites to non-infected sites.

ELP is also a boating location, with a dock for boaters to access the lake. Since boats are often stored in storage units or other sites that could have TCA, an infested boat could have moved ants onto the park.

Ants are known to occur at other PARD facilities, including Walnut Creek Greenbelt and Roy G. Guerrero Park. Any PARD maintenance activities that may have carried infested materials from one of these sites could have transmitted ants to Emma Long. This includes mowers and other equipment.

Though less likely, ants could have been brought to the park by the movement of portable restroom stalls. Immediately behind the Walnut Creek Greenbelt infestation is a portable restroom storage facility that is believed to be infested with ants (Pers. comm. Ed LeBrun).

Additionally, ants could have been brought into the park via roll-away dumpsters. Dump sites are likely to harbor Tawny Crazy Ants and roll away dumpsters are attractants to ants that are moved from site to site.

## **Recommendations for how to reduce the spread**

In virtual meeting with Scott Sinn on October 19<sup>th</sup>, Scott relayed that no material was planned to be taken off site in regards to the park improvements construction project. As such, BCP biologists recommended best management practices of steam pressure washing earth moving equipment prior to moving equipment off site and spraying DEET on tires, etc., on vehicles that would be onsite overnight.

In regards to RV usage, we recommended cancelling RV reservations until the winter, when ants are less active. Additionally, we provided these recommendations based on conversations with TCA experts Ed LeBrun and Robert Puckett:

- Keep vehicles on paved areas if possible.

- Make sure that your site and vehicle are always clean and free of trash.
- Prior to leaving inspect your vehicle, RV, camping gear, and other equipment for ants. If you see ants, please notify park staff immediately.
- Spray insect repellent with high DEET concentration on tires, supports, and utility lines (electric, water, etc.) each day to prevent ants boarding vehicles.
- Keep foods sealed in water tight containers.
- Keep zippers on bags and tents closed when not actively using.
- Do not take firewood or other contaminated material out of park.
- Liquid sugar-based insecticide ant baits will work for treating ants once inside an RV and contact insecticides may not be effective or appropriate for use in an RV.
- If you suspect ants may have invaded personal items, place items in black trash bag and leave in the sun for 24hrs to kill ants.

In regards to dumpsters and porta-potties, we provided the following recommendations:

- Place dumpsters and porta-potties on concrete in direct sun
- Do not use haul away services that replace full dumpsters with empty ones
- Congregate dumpsters and porta-potties into one site that can be more easily controlled
- Warn vendors of TCA on site
- Consider eliminating porta-potties
  - Only use on-site facilities
  - Before removing current stalls, steam clean or pressure wash
- Consider reducing or eliminating use of dumpsters if ants can't be excluded
  - Require visitors to take their trash with them
  - Before removing current dumpsters, steam clean or pressure wash
- Elevate dumpsters and porta-potties to reduce available ant habitat

Additionally, we recommend a strong public outreach and education effort, similar to efforts for the invasive zebra mussel (*Dreissena polymorpha*).

### **Actions taken**

Due to current COVID-19 safety precautions, the ELP completely limited RVs for part of the year, and currently is limiting RVs to half capacity.

PARD staff has allowed Wildlands Conservation Division staff to design and produce informational handouts and has agreed to have the entry attendant provide the handouts to RV campers. Handouts (3,000) have been printed and shared with the kiosk attendant on November 11<sup>th</sup>.

PARD PIO staff has provided guidelines for signage, and PARD PIO and PARD maintenance staffs have shown willingness to allow installation of educational signage.

PARD Rangers management has expressed a desire for additional training and an interest in assisting to document locations of ants. WCD and PARD Rangers staff have developed AGOL platform for the documentation of ant locations. WCD staff provided a virtual training for PARD Rangers on December 12<sup>th</sup>, which was recorded and shared with PARD maintenance as well as with Austin Fire Department staff.